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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,938	10/16/2003	Bao Trong Do	KCX-694 (19340)	4580

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EXAMINER
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JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,938

Applicant(s)

DO ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 40-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-39 in the reply filed on 10/20/06, is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7-8, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yim US 5,486,356.

Regarding claim 1, Yim '356 discloses a method of making a deodorant comprising silica carrier, transition metal, and a catalytic metal on the carrier (abstract) wherein the catalytic metal is covalently bonded (see column 1, lines 52-61 and claim 1).

Regarding claim 7, Yim '356 discloses Cr, Mn, Ti, V, Zn, Zr, as transition metals and Fe, Co, and Ni, as catalytic metals.

Regarding claim 8, Yim '356 discloses metal salts (see column 2, lines 44-49).

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Regarding claim 21, Yim '356 discloses ammonia, amine, methyl-mercaptan, carbon disulfide, and the like (see column 3, lines 16-18).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2-6, 9-15, and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yim '356 in view of Matsui et al. US 5,380,510.

Regarding claim 24, Yim '356 discloses a method of making a deodorant comprising silica carrier, transition metal, and a catalytic metal on the carrier (abstract) wherein the catalytic metal is covalently bonded (see column 1, lines 52-61 and claim 1).

Yim fails to disclose a pH of 9-10.

Matsui '510 discloses a pH of 9 (see Table, column 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pH of Matsui

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in the silica making process of Yim because Matsui discloses the pH as applied to silica production, to control gelation time, which advantageously controls pore volume and specific surface area (see column 1, lines 29-31).

Regarding claims 2-6, 25, Matsui discloses a particle size of 8-50 nm, surface area of 375 square meters per gram, and pore volume of 0.2-1.2 ml/g (see column 2).

Regarding claims 9-15, 28-30, Matsui '510 discloses a pH of 9 (see Table, column 2), and it would have been obvious to one of ordinary skill to adjust the pH by adding any basic compound such as alkali carbonate or hydroxide, or urea pyrolysis, through routine experimentation.

Regarding claims 26-27, Yim '356 discloses Cr, Mn, Ti, V, Zn, Zr, as transition metals and Fe, Co, and Ni, as catalytic metals.

Regarding claim 31, Yim '356 discloses ammonia, amine, methyl-mercaptan, carbon disulfide, and the like (see column 3, lines 16-18).

6. Claims 16-20, 32, and 34-39 rejected under 35 U.S.C. 103(a) as being unpatentable over Yim '356 in view of Yu et al. 6,111,010.

Regarding claim 32, Yim '356 discloses a method of making a deodorant comprising silica carrier, transition metal, and a

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catalytic metal on the carrier (abstract) wherein the catalytic metal is covalently bonded (see column 1, lines 52-61 and claim 1).

Yim fails to disclose an aminofunctional alkoxysilane.

Yu discloses an aminofunctional alkoxysilane (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the aminofunctional alkoxysilane of Yu in the silica production method of Yim because Yu discloses the alkoxysilane in a process for making compositions comprising colloidal silica (see column 8, lines 8-23).

Regarding claims 16-20, 35-38, Yu discloses an aminofunctional alkoxysilane (abstract).

Regarding claim 34, Yim '356 discloses Cr, Mn, Ti, V, Zn, Zr, as transition metals and Fe, Co, and Ni, as catalytic metals.

Regarding claim 39, Yim '356 discloses ammonia, amine, methyl-mercaptan, carbon disulfide, and the like (see column 3, lines 16-18).

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yim '356 in view of Yu '010 as applied to claim 32 above, and further in view of Matsui '510.

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Regarding claim 33, Yim fails to disclose a less than 100 nm.

Matsui '510 discloses Matsui discloses a particle size of 8-50 nm (column 1, lines 65-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the size of Matsui in the silica making process of Yim because Matsui discloses the size as applied to silica production, to control gelation time, which advantageously controls pore volume and specific surface area (see column 1, lines 29-31).

8. Claims 22-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Yim '356 as applied to claim 1 above, and further in view of Hansen et al. US 5,614,570.

Regarding claims 22-23, Yim fails to disclose a nonwoven substrate.

Hansen discloses binding to a fiber (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fiber substrate of Hansen with the covalently bonded silica making process of Yim because Hansen discloses the fiber substrate in a process comprising forming a coordinate covalent bond with a silica particle and an odor absorber (see abstract and column 12, lines 60-63).

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**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ross et al. US 5,500,209 discloses deodorant comprising silica and polyamide wherein metals are bonded to silica (see abstract and column 6).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic



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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ